How Big Is Your Tree?

Project Learning Tree Activity #67

Program of Studies

Science:

- S-P-LS-3 (Organisms have different structures that serve different functions. These structures are used to sort organisms into groups.)
- S-4-SI-2 (Use simple equipment (e.g., plant lights), tools (e.g., rulers, thermometers), skills (e.g., describing), technology (e.g., electronic media), and mathematics in scientific investigations.)
- S-4-LS-3 (Organisms have different structures that serve different functions. These structures are used to sort organisms into groups.)
- S-5-SI-2 (Use appropriate equipment (e.g., watches), tools (e.g., rain gauges), techniques (e.g., classifying), technology (e.g., calculators), and mathematics in scientific investigations.)
- S-5-LS-1 (Recognize the relationship between structure and function at all levels of organization (e.g., organ systems, whole organisms, ecosystems).)
- S-6-SI-2 (Use appropriate equipment (e.g., binoculars), tools (e.g., beakers), techniques (e.g. ordering), technology (e.g., calculators), and mathematics in scientific investigations.)
- S-7-SI-2 (Use appropriate equipment (e.g., spring scales), tools (e.g., spatulas), techniques (e.g., measuring), technology (e.g., computers), and mathematics in scientific investigations.)
- S-8-SI-2 (Use appropriate equipment (e.g., barometers), tools (e.g., meter sticks), techniques (e.g., computer skills), technology (e.g., computers), and mathematics in scientific investigations.)
- S-8-LS-1 (Investigate structure (e.g., cells, tissues, organs) and function (e.g., growth, muscular function, digestion) in living systems.)

Math:

- M-P-NC-37 (Develop the concept of multiplication and division using physical models.)
- M-P-GM-26 (Compare and measure length and weight of familiar objects in nonstandard (e.g., shoe lengths, rocks) and standard units (e.g., inches, pounds).)
- M-4-NC-12 (Add, subtract, multiply, and divide whole numbers.)
- M-4-GM-9 (Exchange units (e.g., linear, volume, mass) within a measurement system (e.g., 2 feet = 24 inches).)
- M-5-GM-6 (Relate units (e.g., linear, volume, mass) within a measurement system (e.g., 125 cm = 1 m 25 cm).)
- M-5-PS-4 (Explore how sample size affects the reliability of the outcome.)
- M-5-PS-5 (Make predictions.)

Core Content

Science:

- SC-E-SI-2 (Use simple equipment (e.g., magnifiers, magnets), tools (e.g., metric rulers, thermometers), skills (e.g., classifying, predicting), technology (e.g., electronic media, calculators, World Wide Web), and mathematics in scientific investigations.)
- SC-E-SI-5 (Communicate (e.g., draw, graph, write) designs, procedures, observations and results of scientific investigations.)
- SC-E-3.1.3 (Each plant or animal has structures that serve different functions in growth, survival, and reproduction. For example, humans have distinct body structures for walking, holding, seeing, and talking.)
- SC-M-SI-2 (Use appropriate equipment, tools, techniques, technology, and mathematics to gather, analyze, and interpret scientific data.)
- SC-M-SI-5 (Communicate (e.g., write, graph) designs, procedures, observations, and results of scientific investigations.)
- SC-M-3.1.1 (Living systems at all levels of organization demonstrate the complementary nature of structure and function. Important levels of organization for structure and function include cells, tissues, organs, organ systems, organisms (e.g., bacteria, protists, fungi, plants, animals), and ecosystems.)
- SC-H-SI-2 (Use equipment, tools, techniques, technology, and mathematics to improve scientific investigations and communications.)
- SC-H-SI-5 (Communicate and defend the designs, procedures, observations, and results of scientific investigations.)
- SC-H-3.4.3 (Biological classifications are based on how organisms are related. Organisms are classified into a hierarchy of groups and subgroups based on similarities that reflect their relationships. Species is the most fundamental unit of classification. Different species are classified by the comparison and analysis of their internal and external structures and the similarity of their chemical processes.)

Math:

- MA-E-1.1.2 (The operations of addition, subtraction, multiplication, and division.)
- MA-E-1.2.2 (Add, subtract, multiply, and divide whole numbers using a variety of methods (e.g., mental, paper and pencil, calculator).)
- MA-E-1.3.1 (How fractions, decimals, and whole numbers relate (equivalence, order).)
- MA-E-2.2.5 (Use nonstandard and standard units to measure weight, length, perimeter, area (figures that can be divided into rectangular shapes), and angles.)
- MA-E-2.2.7 (Choose appropriate tools (e.g., protractors, meter sticks, rulers) for specific measurement tasks.)
- MA-E-2.2.8 (Identify measurable attributes of an object and make an estimate using appropriate units of measurement.)
- MA-M-1.2.1 (Add, subtract, multiply, and divide rational numbers (fractions, decimals, percents, integers) to solve problems.)
- MA-M-1.2.2 (Compute (e.g., estimate, use pencil and paper, use calculator, round, use mental math) large and small quantities and check for reasonable and appropriate computational results.)
- MA-M-2.2.2 (Use appropriate tools and strategies (e.g., combining and subdividing shapes) to find measures of both regular and irregular shapes.)
- MA-M-2.2.4 (Estimate measurements in standard units.)